taking a plurality of different crystallization samples in an enclosed microvolume, the plurality of crystallization samples comprising a material to be crystallized and crystallization conditions which vary among the plurality of crystallization samples;

allowing crystals of the material to form in the plurality of crystallization samples; and

identifying which of the plurality of crystallization samples comprise a precipitate or a crystal of the material.

6. (Amended) A method according to claim 1 wherein the enclosed microvolume is at least partially defined by a face of a card shaped substrate.

~~14~~ 9. (Amended) A method according to claim 1, the method further comprising performing a spectroscopic analysis on a precipitate or crystal formed within the microvolume.

~~15~~ 10. (Amended) A method according to claim ~~14~~ 9, wherein the spectroscopic analysis is selected from the group consisting of Raman, UV/VIS, IR, and x-ray spectroscopy.

~~17~~ 12. (Amended) A method according to claim ~~16~~ 11, wherein x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least as many electrons as is contained in a material defining the portion of the microvolume that the x-ray beam traverses.

~~18~~ 13. (Amended) A method according to claim ~~16~~ 11, wherein x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least three times as many electrons as is contained in a material defining the portion of the microvolume that the x-ray beam traverses.

~~19~~ 14. (Amended) A method according to claim ~~16~~ 11, wherein x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least

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five times as many electrons as is contained in a material defining the portion of the microvolume that the x-ray beam traverses.

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20. (Amended) A method according to claim ~~16~~, wherein x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least ten times as many electrons as is contained in a material defining the portion of the microvolume that the x-ray beam traverses.

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~~21~~. (Amended) A method according to claim 1, wherein material defining the microvolume defines a groove that reduces a number of electrons that an x-ray beam used to perform x-ray spectroscopy of a crystal within the microvolume traverses in the process of performing x-ray spectroscopy on the sample within the microvolume.

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~~24~~. (Amended) A method according to claim 1, wherein one or more dividers are positioned within the enclosed microvolume to separate adjacent crystallization samples within the enclosed microvolume.

SUB B2
25. (Amended) A method according to claim 25, wherein the one or more dividers are formed of an impermeable material.

SUB B4
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28. (Amended) A method according to claim 25, wherein the one or more dividers are formed of a permeable material.

29. (Amended) A method according to claim 25, wherein the one or more dividers are formed of a semipermeable material.

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33. (Amended) A method according to claim 25, wherein at least one of the one or more dividers form an interface selected from the group consisting of liquid/liquid, liquid/ gas interface, liquid/ solid and liquid/ sol-gel interface.



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34. (Amended) A method according to claim 25, wherein the one or more dividers are selected from the group consisting of a membrane, gel, frit, and matrix.

35. (Amended) A method according to claim 25, wherein the one or more dividers function to modulate diffusion characteristics between adjacent crystallization samples.

36. (Amended) A method according to claim 25, wherein at least one of the one or more dividers is formed of a semipermeable material which allows diffusion between adjacent crystallization samples.

37. (Amended) A method for determining crystallization conditions for a material, the method comprising:

taking a plurality of different crystallization samples in a plurality of enclosed microvolumes, each microvolume comprising one or more crystallization samples, the crystallization samples comprising a material to be crystallized and crystallization conditions which vary among the plurality of crystallization samples;

allowing crystals of the material to form in the plurality of crystallization samples; and

identifying which of the plurality of crystallization samples comprise a precipitate or a crystal of the material.

Please add the following new claims 38-45.

38. A method according to claim 11, wherein the x-ray spectroscopy is x-ray diffraction.

39. A method according to claim 11, wherein x-ray spectroscopy is performed such that a portion of the crystal or precipitate that the x-ray beam traverses contains at least as many electrons as is otherwise traversed by the x-ray beam when traversing a device comprising the microvolume.

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cont.

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40. A method according to claim 11, wherein x-ray spectroscopy is performed such that a portion of the crystal or precipitate that the x-ray beam traverses contains at least three times as many electrons as is otherwise traversed by the x-ray beam when traversing a device comprising the microvolume.

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41. A method according to claim 11, wherein x-ray spectroscopy is performed such that a portion of the crystal or precipitate that the x-ray beam traverses contains at least five times as many electrons as is otherwise traversed by the x-ray beam when traversing a device comprising the microvolume.

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42. A method according to claim 11, wherein x-ray spectroscopy is performed such that a portion of the crystal or precipitate that the x-ray beam traverses contains at least ten times as many electrons as is otherwise traversed by the x-ray beam when traversing a device comprising the microvolume.

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43. A method according to claim 37, wherein each microvolume comprising a plurality of crystallization samples.

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44. A method according to claim 11, wherein x-ray spectroscopy is performed such that a portion of the microvolume that the x-ray beam traverses contains at least half as many electrons as is contained in a material defining the portion of the microvolume that the x-ray beam traverses.

45. The method according to claim 1 wherein the material to be crystallized contains at least two or more materials selected from the group consisting of viruses, proteins, peptides, nucleosides, nucleotides, ribonucleic acids, deoxyribonucleic acids, small molecules, drugs, putative drugs, inorganic compounds, metal salts, organometallic compounds and elements.



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